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## INTEROFFICE MEMORANDUM

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**TO:** MERLE JEFFERSON SR., EXECUTIVE DIRECTOR  
LEROY DEARDORFF, ENVIRONMENTAL PROGRAM DIRECTOR  
JEREMY FREIMUND, WATER RESOURCES MANAGER

**FROM:** MONIKA LANGE, NATURAL RESOURCE ANALYST

**SUBJECT:** NOVEMBER 3, 2011 SEAPOND TIDEGATE OIL SPILL RESPONSE DRILL (NPS-14)

**DATE:** 11/18/11

**CC:** RON TSO, CHIEF OF POLICE

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The purpose of this memorandum is to summarize the spill drill that took place on November 3, 2011.

### Participants:

The following LNR and LNPB staff participated in the drill:

1. Jeremy Freimund, LNR Water Resources Manager
2. Frank Lawrence III, LNR Water Resources Planner I
3. Jamie Mattson, LNR Water Resources Specialist I
4. Victor Johnson, LNR GIS/Water Resources Technician III
5. Monika Lange, LNR Natural Resources Analyst
6. Officer David Savage, LNPB
7. Officer Jay Martin, LNPB
8. Don Kruse, LNR Project Biologist
9. Frank Bob, LNR Restoration Assistant
10. Gregg Dunphy, LNR Forest Fish Manager

The LNR Executive Director (Merle Jefferson) and the Environmental Program Director (Leroy Deardorff) attended the briefing meeting and observed part of the drill. The LNR ESA Policy Representative (Randy Kinley) also observed part of the drill. Ken Schacht and Chad Huntley from the Marine Spill Response Corporation (MSRC) participated throughout the drill and provided suggestions and hands-on support during the deployment.

### Drill Strategy:

The exercise was a half-day oil spill response drill with boom deployment. The goal of the drill was to deploy boom strategy NPS-14 of the Geographic Response Plan (GRP) for the North Puget Sound (NPS) region (see attached diagram). NPS-14 calls for deflection boom to be placed in a chevron configuration in front of the western tide gate of the Seapond Aquaculture Facility to prevent oil from entering the Seapond.

### Drill Goals:

1. Test NPS-14.
2. Test accessibility of site for the boom trailer.
3. Practice use of tension lines ("belly lines") on deflection boom.
4. Practice team work.

### Briefing and Scenario:

During the pre-meeting held in the Sam Cagey room at the LNR office, Jeremy outlined the scenario for the day and addressed each of the agenda items. In the scenario, oil from an oil barge accident north of Lummi Island (NPS-C) was predicted to enter Lummi Bay. The Unified Command at the ConocoPhillips Refinery directed the Lummi Oil Spill Response Team to protect the Seapond tide gates.

Briefing Agenda:

1. Check in
2. Briefing/Scenario
3. ICS Review
4. Safety (Rocks, Water [PDF], Bees, Hypothermia)
5. Deployment (Boom, Sorbent Pads, Sorbent Boom, Belly Line)
6. Debriefing/Lunch
7. Check out

Tide Predictions (Cherry Point Station) for November 3, 2011:

Low Tide: 4:34 am, 1.2 ft

High Tide: 12:19 pm, 9.1 ft

Low Tide: 7:14 pm, 4.2 ft

The road leading along the top of the Seaponds Dike dips down sharply when crossing the two tide gates located along the western extent of the dike. In order to reach the site of NPS-14, the boom trailer has to cross the tide gates at NPS-12 and ideally cross the tide gates that are to be protected at NPS-14 too. The road had been scouted the day before the drill and measurements indicated that it should be possible to tow the boom trailer across the tide gates but with very low margins.

**Timeline:**

Table 1 summarizes the spill drill events.

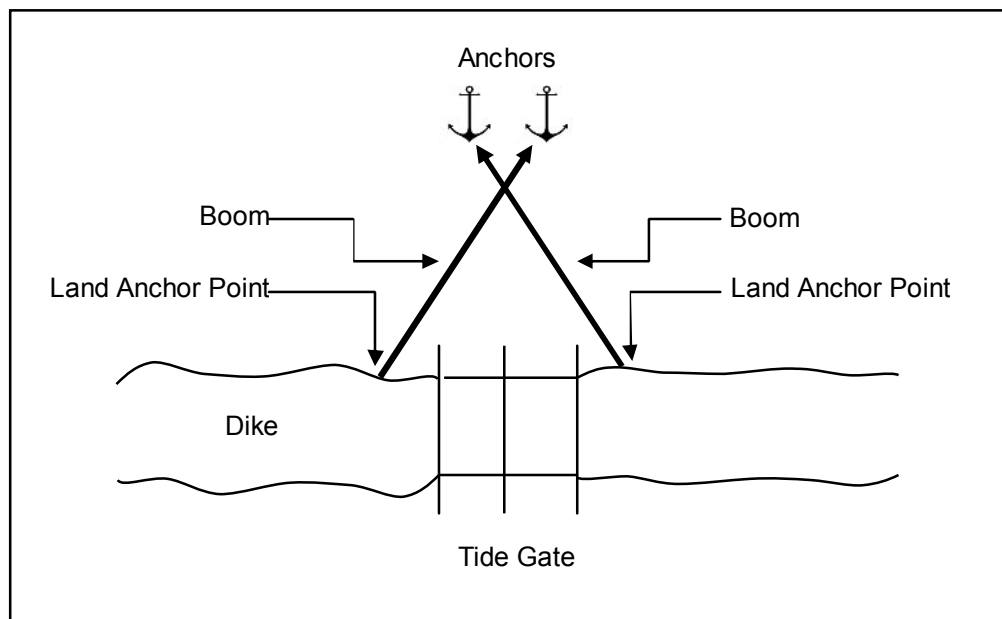
**Table 1: Timeline of the November 3, 2011 Oil Spill Response Drill**

<i>Time</i>	<i>Event</i>
10:37 am	Pre-meeting with explanations of scenario and goals, ICS refresher, safety briefing, and job assignments.
11:07 am	Mobilization
11:28 am	The LNR Spill Response Boat “Responder” leaves the Central Campus.
11:33 am	Boom trailer leaves Central Campus.
11:39 am	The “Responder” arrives at the Gooseberry Point dock.
11:45 am	The “Responder” launches from the dock.
11:53 am	The “Responder” and the boom trailer arrive at the site of NPS-14 (tide gates).
12:00 pm	Start of boom unloading.
12:15 pm	The second land anchor is tied up after the boom was pulled by the “Responder” across the tide gate.
1:13 pm	The “Responder” departs the site after the deployment and evaluation of several boom configurations.
1:21 pm	Arrival of the “Responder” at the Gooseberry Point dock.
1:31 pm	The “Responder” leaves the dock.
1:35 pm	Boom reloading on the trailer completed.
1:40 pm	The “Responder” arrives at the Central Campus.
1:42 pm	The boom trailer arrives at the Central Campus.
1:45 pm	Lunch, de-briefing, and check out.
2:30 pm	Cleaning of the “Responder” and re-storing of supplies.
3:00 pm	End of drill.

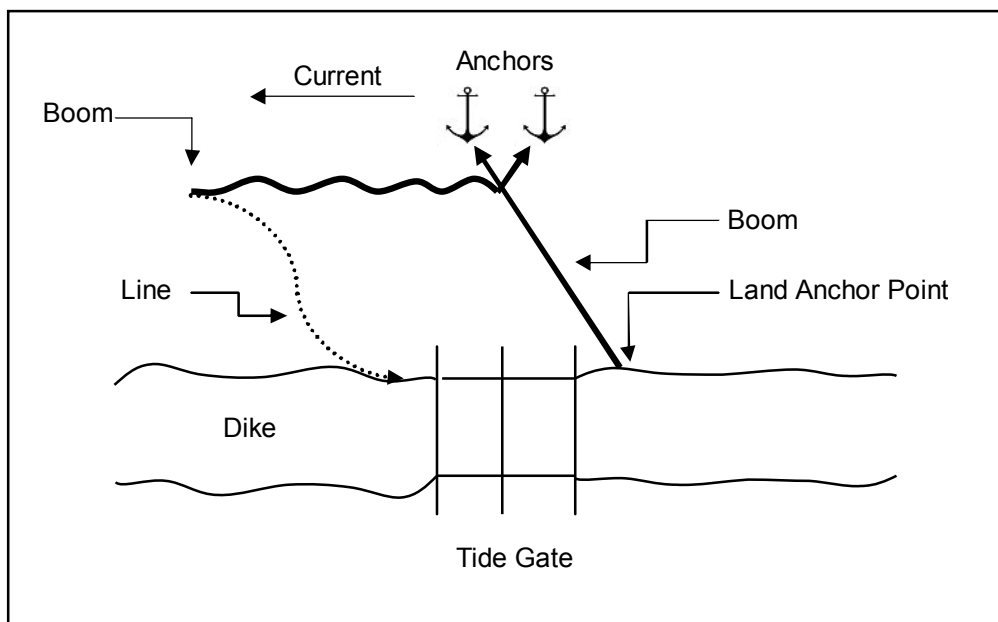
**Results:**

The following are “lessons learned” and recommendations resulting from the drill:

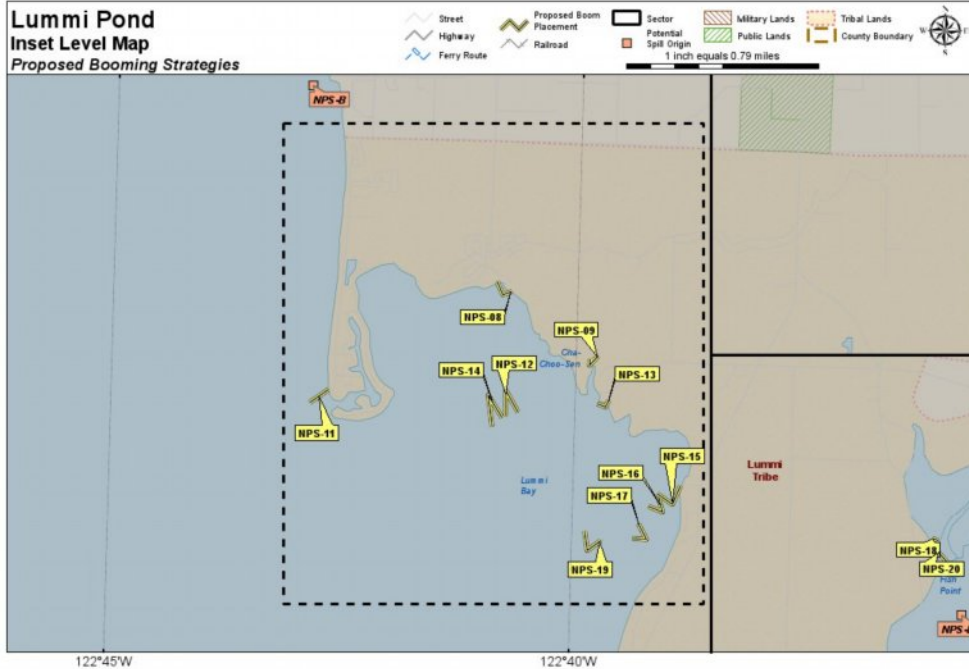
- It is possible to tow the boom trailer along the Dike access road even though the back of the trailer scraped the roadway.
- The two hand-held radios that are used for spill response drills proved to have a very short range. Communication between the boat crew and shore crew was not possible when the boat was still at Gooseberry Point and the shore crew on the dike.
- There are good anchor points for the deflection boom available close to the tide gates at NPS-14. Because the anchor points are close to the sides of the tide gates, 400 ft of boom anchored at the center point (200 ft) form a very steep triangle that would not effectively deflect oil. The boom was also anchored at 150 ft and at 250 ft from the shore anchor point. The team shortened the boom to 300 ft and then to 200 ft and found the 200 ft configuration to work best. 200 ft of boom would also preserve resources.
- Due to the difficulty in deploying the boom with the tidal currents and trying out different boom configurations, the tension lines were not deployed.
- The boat crew had difficulties identifying the anchor points on the deflection boom, as all the markings were turned to the inside of the configuration. Better marking of the anchor points is needed. (The anchor points are located at the metal connectors and in the center of each 100 ft boom section.)
- Ken Schacht (MSRC) recommended deploying two anchors for this strategy. Each anchor will keep one leg of the boom under tension even when the current changes due to the tides (see diagram).



- Officer Jay Martin suggested keeping the boom at the land anchor points on long lines so that one leg of the boom could always be released to act as a loose leg parallel to the current. This would aid the deflection of the oil away from the tide gates.



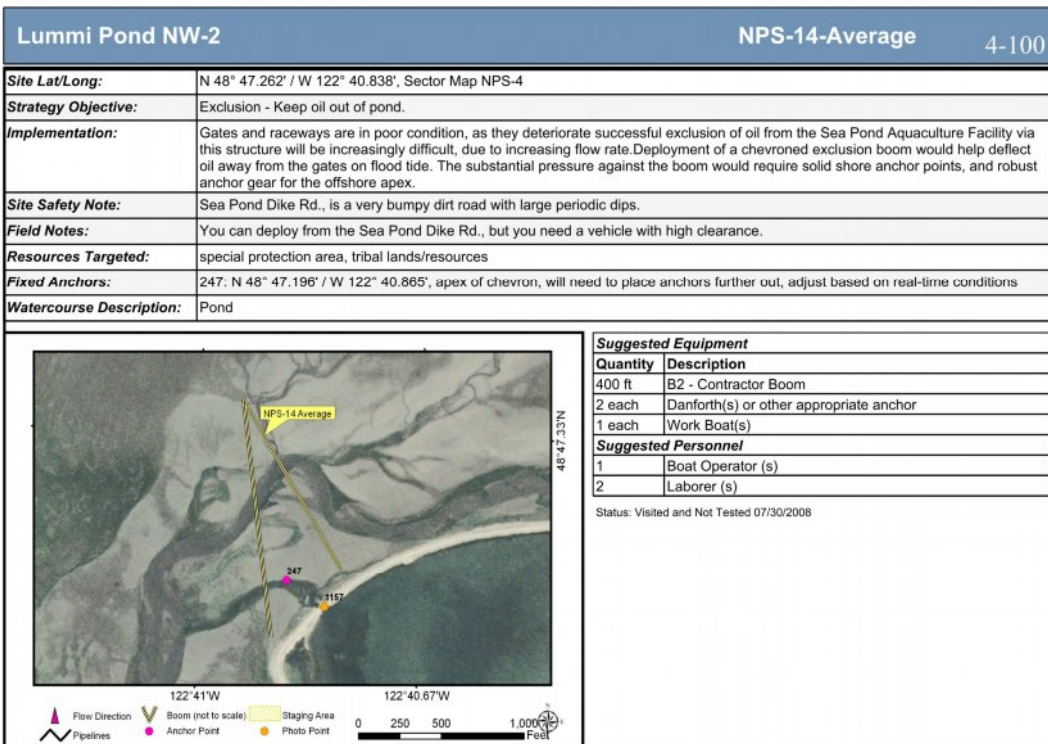
- Ken pointed out that either configuration would need continuing attention as the boom will be moved around by shifting currents and changing tide levels.



North Puget Sound (NPS) GRP, Version 1.00

4-20

General Overview Map Priorities **Sector Map** Matrices Access Strategy Staging



North Puget Sound (NPS) GRP, Version 1.00

4-100

General Overview Map Priorities Sector Map Matrices Access **Strategy** Staging



Mobilization



Trailer passing first tide gate



Boom unloading



Responder tows boom off shore



400 ft of boom deployed in steep triangle



Grappling for anchor point





Shortening of boom



300 ft of boom deployed



200 ft of boom deployed



Returning the boom to the dike..



Landing the boom



Reloading the boom onto the trailer